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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,873	09/30/2003	George Logsdon	P05706	9203

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EXAMINER

RODRIGUEZ, PAUL L

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/674,873

Applicant(s)

LOGSDON ET AL.

Examiner

Paul L. Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 and 23-25 is/are allowed.
- 6) ☒ Claim(s) 1, 11-19 and 26 is/are rejected.
- 7) ☒ Claim(s) 2-10, 21 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed 6/10/05 has been received and considered. Claims 1-26 are presented for examination.

Drawings

2. The drawings were received on 6/10/05. These drawings are acceptable however objections remain.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 376. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:

Page 12 line 21 states "lightly shaded objects, such as object 210b", reference number 210b has no shading present in the new amended drawings.

Page 14 line 3 states "212b, with lighter shading", figure 2A-2 shows no shading for 212b in

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the new amended drawings.

Appropriate correction is required.

Claim Objections

5. Claims 21 and 22 are objected to because of the following informalities:

Claim 21 line 1 refers to “the virtual queue”, previously “at least one virtual queue”, reference should remain consistent to avoid any confusion or possible antecedent problems.

Claim 22 line 3 refers to “the virtual queue”, reference should remain consistent, see above.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11-19 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 11 recites the limitation "the model" in line 9. There is insufficient antecedent basis for this limitation in the claim. Previously “modeling the process system” but there was no reference to a model.

9. Claim 13 recites the limitation "the virtual queue" in line 1. There is insufficient antecedent basis for this limitation in the claim. Unclear if referring to the “at least one virtual queue” in claim 11, or “one virtual queue” in claim 12.

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10. Claim 14 recites the limitation "the virtual queue" in line 2. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 15 recites the limitation "the virtual queue" in line 6. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 26 recites the limitation "the furnace" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim. Previously "one or more furnaces", "a...polysilicon furnace", "wet decks or furnaces" and "wet deck or furnace". Unclear, which one is being referred to.

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1 and 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3 and 7 of U.S. Patent application 10/299,949, U.S. Patent No. not yet assigned. Although the conflicting claims are not identical, they are not patentably distinct from each other because the graphical user interface that is operable to enable

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supervisory interaction in 10/299,949 is described in figures 2a and 2b as graphical user interfaces used to represent a plurality of multifunction resources, status information about the manufacturing tools and work in process inventory, queue jumping hot lots, resource or tool-level status data is updated automatically, an exemplary display is a combination of tool and logistical level data including number of wafers in next application process, next process planned, rank of next application process and application processes for other tools including the unload schedules for work currently in process. All of these references in 10/299,949 are considered to be obvious elements relating to the graphical user interface claimed in the instant application.

The claims 3 and 7 of patent/application 10/299,949, now patented, contain every element of claims 1 and 11 of the instant application and as such claims 1 and 11 are considered a subset of claims 3 and 7. While claim 3 and 7 of patent/application 10/299,949, now patented does not specifically address the specific claim language, the instant application discloses the same process system with GUI for supervisory interaction. Therefore, because the graphical user interface is fully contained by the element in the patent and as such, is an obvious variation of the whole element (set) in the patent.

15. Claims 1 and 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 7 of U.S. Patent application 10/447, 211, U.S. Patent No. not yet assigned. Although the conflicting claims are not identical, they are not patentably distinct from each other because the graphical user interface that is operable to enable supervisory interaction in 10/447,211 is described in figures 2a and 2b as graphical user interfaces used to represent a plurality of multifunction resources, status information about the manufacturing tools and work in process inventory, queue jumping hot lots, resource or tool-level status data is

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updated automatically, an exemplary display is a combination of tool and logistical level data including number of wafers in next application process, next process planned, rank of next application process and application processes for other tools including the unload schedules for work currently in process. Also, reference number 1000 contains queue data, column H, reference number 1200 "WIP in queue" and see page 48 line 11 – page 49 line 15, "queue time". All of these references in 10/447,211 are considered to be obvious elements relating to the graphical user interface claimed in the instant application.

The claims 1 and 7 of patent/application 10/447/211, now patented, contain every element of claims 1 and 11 of the instant application and as such claims 1 and 11 are considered a subset of claims 1 and 7. While claim 1 and 7 of patent/application 10/447,211, now patented does not specifically address the specific claim language, the instant application discloses the same process system with GUI for supervisory interaction. Therefore, because the graphical user interface is fully contained by the element in the patent and as such, is an obvious variation of the whole element (set) in the patent.

16. Claims 1 and 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3 and 8 of U.S. Patent application 10/447, 324, U.S. Patent No. not yet assigned. Although the conflicting claims are not identical, they are not patentably distinct from each other because the graphical user interface that is operable to enable supervisory interaction in 10/447,324 is described in figures 2a and 2b as graphical user interfaces used to represent a plurality of multifunction resources, status information about the manufacturing tools and work in process inventory, queue jumping hot lots, resource or tool-level status data is updated automatically, an exemplary display is a combination of tool and logistical level data

including number of wafers in next application process, next process planned, rank of next application process and application processes for other tools including the unload schedules for work currently in process. Also, figure 10 reference number 1000 contains queue data, column H, is the date and time when the queue time starts. All of these references in 10/447,324 are considered to be obvious elements relating to the graphical user interface claimed in the instant application.

The claims 3 and 8 of patent/application 10/447/324, now patented, contain every element of claims 1 and 11 of the instant application and as such claims 1 and 11 are considered a subset of claims 3 and 8. While claim 3 and 8 of patent/application 10/447,324, now patented does not specifically address the specific claim language, the instant application discloses the same process system with GUI for supervisory interaction. Therefore, because the graphical user interface is fully contained by the element in the patent and as such, is an obvious variation of the whole element (set) in the patent.

17. Claims 1 and 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2 and 9 of U.S. Patent application 10/463,830, U.S. Patent No. not yet assigned. Although the conflicting claims are not identical, they are not patentably distinct from each other because the graphical user interface that is operable to enable supervisory interaction in 10/463,830 is described in figures 2a and 2b as graphical user interfaces used to represent a plurality of multifunction resources, status information about the manufacturing tools and work in process inventory, queue jumping hot lots, resource or tool-level status data is updated automatically, an exemplary display is a combination of tool and logistical level data including number of wafers in next application process, next process planned, rank of next

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application process and application processes for other tools including the unload schedules for work currently in process and figure 8 reference number 1000 contains queue data and information. All of these references in 10/463,830 are considered to be obvious elements relating to the graphical user interface claimed in the instant application.

The claims 2 and 9 of patent/application 10/463,830, now patented, contain every element of claims 1 and 11 of the instant application and as such claims 1 and 11 are considered a subset of claims 2 and 9. While claim 2 and 9 of patent/application 10/463,830, now patented does not specifically address the specific claim language, the instant application discloses the same process system with GUI for supervisory interaction. Therefore, because the graphical user interface is fully contained by the element in the patent and as such, is an obvious variation of the whole element (set) in the patent.

“ [1] After analyzing the language of the claims, it is clear that claim 1 of the '989 patent is merely an obvious variation of claim 1 of the '569 patent. While claim 1 of the '989 patent is slightly broader than claim 1 of the '569 patent with respect to the outer surfaces of the board, this difference is not enough to distinguish the two claims. With respect to the composition of the glass mats, the language and the disclosure of the '989 patent not only fail to distinguish it from the '569 patent, but indicate that it is merely a **subset** of the '569 patent. These differences are not sufficient to render the claims patentably distinct, and therefore, claim 1 of the '989 patent is invalid.” *GEORGIA-PACIFIC CORP. v UNITED STATES GYPSUM CO.* (CAFC) 52 USPQ2d 1590.

MPEP Chapter 800 – “A rejection based on double patenting of the “same invention” type finds its support in the language of 35 U.S.C. 101 which states that “whoever invents or discovers any new and useful process ... may obtain a patent therefor” Thus, the term “same invention,” in this context, means an invention drawn to identical subject matter. *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957). Where the claims of an application are not the “same” as those of a first patent, but the grant of a patent with the claims in the application would unjustly extend the rights granted by the first patent, a double patenting rejection under nonstatutory grounds is proper.”

Allowable Subject Matter

18. Claims 1, 11, 20 and 23-25 are allowed over the prior art of record.
19. Claims 2-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
20. Claim 11-19 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
21. Claim 26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
22. Claims 21 and 22 are objected to as containing minor informalities but would be allowable if the deficiencies were corrected.
23. While Bickley et al (U.S. Pat 6,615,092) discloses a resource allocator, a method and a process system, operable to allocate a plurality of multi-function resources among a plurality of tasks within a process system, said process system capable of executing at least one application process, said resource allocator comprising monitoring controller that monitors measurable characteristics associated with said at least executing application process, said plurality of multi-function resources, and said plurality tasks, each said measurable characteristics one of a status

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characteristic and a logistical characteristic, a model of process system elements and an optimized model, a resource allocation controller that allocates multi-function resources among said plurality of tasks within said process system, and a graphical user interface associated with said resource allocator for supervisory interaction, Allen, Jr. et al (U.S. Pat 6,763,277), Jameson (U.S. Pat 6,625,577), Crampton et al (U.S. Pat 6,591,153), Smirnov et al (U.S. Pat 6,546,364), Bigus (U.S. Pat. 5,745,652), Zhu et al (U.S. Pat 5,649,113) and Freedman et al (U.S. Pat 4,924,386) each teach resource allocations which utilize a model to determine the allocation of assets and the prior art of record cited in the previous office action teach numerous elements relating to the specific furnace and wet deck recited in the claims and graphical user interfaces indicating virtual environments.

None of these reference taken either alone or in combination with the prior art of record disclose a resource allocator, including:

“a model of the process system representing mathematically the resources and the tasks and defining relationships among related ones of the resources and the tasks as a function of the at least one application process, a resource allocation controller operable to operate the model in response to ones of the monitored characteristics”,

“represent mathematically the resources and the tasks and to define relationships among related ones of the resources and the tasks as a function of the at least one application process, operating a model in response to ones of the monitored characteristics”, and

a graphical user interface comprising “a first portion identifying at least two types of semiconductor wafers to be processed by at least one of one or more wet decks and one or more furnaces, a second portion identifying the one or more wet decks, the one or more furnaces, and flows of semiconductor wafer lots between the one or more wet decks and the one or more furnaces,

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the second portion comprising at least one virtual queue operable to identify one or more semiconductor wafer lots that have been scheduled to be processed”,

in combination with the remaining elements and features of the claimed invention. It is for these reasons that the applicant's invention defines over the prior art of record.

24. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Response to Arguments

25. Applicant's arguments, filed 6/10/05, with respect to the rejection made under 101 and the art rejections have been fully considered and are persuasive. The rejections of claims 1, 11 and 20 have been withdrawn.

Regarding the objections to the drawings and specifications, deficiencies remain see above.

Regarding objections to the claims, deficiencies remain, see above.

Regarding rejections under 112, deficiencies remain, see above.

Regarding the rejection under 101, upon further consultation, the rejection is withdrawn.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hoffman et al (U.S. Pub 2005/0047338) – teaches the use of a virtual queue for a resource allocator.

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27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul L. Rodriguez whose telephone number is (571) 272-3753. The examiner can normally be reached on 6:00 - 4:30 T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul L Rodriguez
Primary Examiner
Art Unit 2125

PLR
8/17/05